

ABSTRACT:

A method for generating a carrier residual signal and its device, in which a heterodyne optical signal used in a photometric field or an optical fiber radio communication field can be stably generated with a simplified structure. The device includes an optical modulating unit that includes a light source generating a light wave having a specific wavelength, and an SSB optical modulator. A light wave emitted from the light source enters into the optical modulating unit. A light wave emitted from the optical modulating unit includes a carrier component related to a zero-order Bessel function and a specific signal component related to a specific high-order Bessel function while suppressing signal components other than the specific signal component related to the specific high-order Bessel function, and a ratio of optical intensity between the carrier component and the specific signal component is set substantially to 1.